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Date: Sun, 20 Mar 88 01:30:22 MST  
Reply-To: INFO-HAMS@SIMTEL20.ARPA  
Sender: Info-Hams redistribution <DIST-HAM@RPICICGE>  
From: INFO-HAMS-REQUEST@SIMTEL20.ARPA  
Subject: INFO-HAMS Digest V88 #116  
X-To: INFO-HAMS@SIMTEL20.ARPA  
To: Douglas Chan <ENGM08C@BOSTONU>

INFO-HAMS Digest                      Sun, 20 Mar 88                      Volume 88 : Issue 116

Today's Topics:

                                    An idea..  
    Double the memory capacity of your R7000 receiver? (yes)  
                                    EPROM erasers  
                                    looking for.....  
                                    NASA Prediction Bulletins  
                                    Scan the Swaggarts  
                                    Signal Splitters  
    Soviets continue microwave zapping of US embassy  
                                    Tiny little TNC?  
                                    Tube Substitutes

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Date: Sat, 19 Mar 1988 10:45 EST  
From: Robert L. Metcalf <RLM%MAINE.BITNET@MITVMA.MIT.EDU>  
Subject: An idea..

Until the problems with UPS are resolved, why don't we all stop using UPS  
for shipping radio equipment?

~~~~~  
Robert L. Metcalf - KA1QKH  
Bitnet: RLM@Maine  
ARPA: RLM%Maine.Bitnet@Jade.Berkeley.edu  
Snail Mail: 369 Main Street; Orono, ME 04473  
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Date: 14 Mar 88 15:18:43 GMT  
From: morrow@ee.ecn.purdue.edu (Robert K Morrow)  
Subject: Double the memory capacity of your R7000 receiver? (yes)

In article <2683@ihuxz.ATT.COM> parnass@ihuxz.ATT.COM (Bob Parnass, AJ9S)  
writes:  
>In article <2674@ihuxz.ATT.COM>, parnass@ihuxz.ATT.COM (Bob Parnass, AJ9S)  
writes:

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>>
>>   To double the number of memory channels in the R7000 to
>>   198.....
>
>   Jack Albert, WA9FVP, reports that he tried a modification,
>   and it works! Jack doesn't have the remote control option
>   in his R7000, so he elected to use the front panel REMOTE
>   switch as a bank switch.
>
>   He installed a 48,000 ohm resistor between IC8 pin 19 and
>   ground, and ran a wire from the REMOTE switch to pin 19.
>=====
>Bob Parnass, Bell Telephone Laboratories - ihnp4!ihuxz!parnass - (312)979-5414

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A word of warning:

If the remote switch is used to directly select the new bank, you will be placing 13.8V on pin 19 of IC8, which is too high. Instead, make a voltage divider by putting a 68k resistor between the output of the remote switch and pin 19, and a 39k resistor between pin 19 and ground.

Bob Morrow

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Date: 17 Mar 88 15:28:10 GMT
From: fluke!ssc-vax!maa@beaver.cs.washington.edu (Mark A Allyn)
Subject: EPROM erasers

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In regard to this discussion about eprom erasers and eye damage, the question comes to me and that is just what is it with ultraviolet light that is so bad with your eyes? Does it screw up the retina? The corona? What does damage to what? We had a germicidal lamp at the kindergarten school I went to thirty plus years ago and I remember looking at it (it was this deep purple glow). I can still see now. Again, what's the big deal? People have black lights in bars and living rooms and I never hear of anyone going blind.

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Date: 18 Mar 88 19:53:11 GMT
From: swaps.dec.com!simmons@decwrl.dec.com
Subject: looking for.....

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I am looking for an old ham friend I've lost contact with many years ago. he used to be wn6e?? in SAN FRANCISCO ABOUT 1975

or so.

His name is

Norman Hewlett.

Can you help me with his current call and QTH if any?

thank you,

kevin simmons

N6QDA

-----  
Date: 19 Mar 88 20:35:29 GMT

From: ut-emx!tskelso@sally.utexas.edu (TS Kelso)

Subject: NASA Prediction Bulletins

The most current orbital elements from the NASA Prediction Bulletins are carried on the Celestial RCP/M, (512) 892-4180, and are updated several times weekly. As a service to the amateur satellite community, the most current of these elements are uploaded weekly to rec.ham-radio. This week's elements are provided below. The Celestial RCP/M may be accessed 24 hours/day at 300, 1200, or 2400 baud using 8 data bits, 1 stop bit, no parity.

- Current NASA Prediction Bulletins #298 -

LAGEOS

1	08820U		88	70.42745814	0.000000009		19999-1	0	5448
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2	08820	109.8507	71.2499	0044204	54.5920	305.8626	6.38664246	21010	
---	-------	----------	---------	---------	---------	----------	------------	-------	--

GOES 2

1	10061U		88	71.05564703	0.000000003		10000-3	0	1035
---	--------	--	----	-------------	-------------	--	---------	---	------

2	10061	5.9995	73.7940	0007569	159.6336	200.5993	1.00270294	729	
---	-------	--------	---------	---------	----------	----------	------------	-----	--

GPS-0001

1	10684U		88	74.25313148	0.000000015			0	8637
---	--------	--	----	-------------	-------------	--	--	---	------

2	10684	63.4112	115.0734	0095965	198.8382	160.8774	2.00565723	59302	
---	-------	---------	----------	---------	----------	----------	------------	-------	--

GPS-0002

1	10893U		88	70.21667579	-.000000029			0	8503
---	--------	--	----	-------------	-------------	--	--	---	------

2	10893	64.6184	355.9653	0138350	30.9203	329.9035	2.00568613	72040	
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GOES 3

1	10953U		88	72.10051654	0.000000090			0	4762
---	--------	--	----	-------------	-------------	--	--	---	------

2	10953	4.8582	76.4775	0002348	214.9417	145.1995	1.00266987	37001	
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SeaSat 1

1	10967U		88	67.42290357	0.000000217		10000-3	0	9784
---	--------	--	----	-------------	-------------	--	---------	---	------

2 10967 108.0024 47.3932 0002815 266.8426 93.2386 14.33754277507172  
 GPS-0003  
 1 11054U 88 69.04310031 -.000000029 0 8735  
 2 11054 64.1432 352.6240 0047776 118.0333 242.4746 2.00568312 69039  
 GPS-0004  
 1 11141U 88 72.63138543 0.000000015 0 9754  
 2 11141 63.3990 115.0242 0055706 325.8425 33.8614 2.00567278 67800  
 NOAA 6  
 1 11416U 88 73.41225465 0.000000143 68719-4 0 7145  
 2 11416 98.4944 78.6333 0012981 21.9757 338.1975 14.25116098452267  
 GPS-0006  
 1 11783U 88 68.10001484 -.000000029 0 7312  
 2 11783 63.9799 352.4132 0131468 64.5103 296.8796 2.00559208 57658  
 GOES 4  
 1 11964U 88 69.87815671 -.000000245 10000-3 0 9800  
 2 11964 4.3190 78.4242 0004230 3.2865 357.1239 1.00258109 43216  
 GOES 5  
 1 12472U 88 65.00000000 -.000000218 10000-3 0 5950  
 2 12472 1.3346 87.9056 0001870 254.5206 96.4407 1.00552155 23896  
 UOSAT 1  
 1 12888U 88 73.29534950 0.000006104 20172-3 0 1683  
 2 12888 97.6270 103.3843 0002602 26.8816 333.2534 15.31760919358059  
 RS-08  
 1 12998U 88 68.18441708 0.000000012 10000-3 0 5062  
 2 12998 82.9610 129.1997 0018306 251.6140 108.2908 12.02962577273272  
 RS-05  
 1 12999U 88 73.10234077 0.000000012 10000-3 0 4856  
 2 12999 82.9631 121.6906 0010238 179.0370 181.0781 12.05067205274341  
 RS-07  
 1 13001U 88 72.54604543 0.000000013 10000-3 0 3723  
 2 13001 82.9592 113.1536 0023883 93.3529 267.0308 12.08703888275103  
 Meteor 2-08  
 1 13113U 88 61.44561202 0.000000055 44239-4 0 5807  
 2 13113 82.5341 74.4320 0014643 316.0348 43.9627 13.83846796299856  
 Salyut 7  
 1 13138U 88 74.83154678 0.000000773 30370-4 0 157  
 2 13138 51.6142 25.2653 0001582 131.2037 228.9132 15.32172048337613  
 Meteor 2-09  
 1 13718U 88 66.90542789 0.000000005 0 6587  
 2 13718 81.2486 18.5350 0054875 248.2476 111.2834 14.12956107269569  
 GOES 6  
 1 14050U 88 72.90162185 0.000000118 0 7667  
 2 14050 0.1404 94.9177 0003860 105.3033 159.7378 1.00280678 1980  
 OSCAR 10  
 1 14129U 88 60.08983611 0.000000091 10000-3 0 3307  
 2 14129 27.3968 335.7622 6024302 284.4144 19.2147 2.05876428 7458  
 GPS-0008  
 1 14189U 88 70.18708283 0.000000014 0 5026

2 14189 63.0347 113.9065 0124855 212.4914 146.8074 2.00560370 34135  
 Meteor 2-10  
 1 14452U 88 73.21468374 0.00000006 0 6101  
 2 14452 81.1650 35.2975 0094953 344.7322 15.1365 14.21782875227035  
 LandSat 5  
 1 14780U 88 74.99152496 0.00000006 62936-5 0 4308  
 2 14780 98.2315 138.3564 0001006 254.2561 105.8538 14.57101357214698  
 UOSAT 2  
 1 14781U 88 71.19793346 0.00000246 53319-4 0 2996  
 2 14781 98.0652 136.3258 0013511 343.3566 16.7192 14.62245905214867  
 LDEF  
 1 14898U 88 73.47406785 0.00004651 12935-3 0 5250  
 2 14898 28.5093 127.5014 0001965 113.2468 246.8265 15.34218693220374  
 GPS-0009  
 1 15039U 88 57.28555014 0.00000014 0 5221  
 2 15039 62.7606 113.7201 0020397 316.7481 43.1557 2.00566399 27153  
 Meteor 2-11  
 1 15099U 88 70.32089258 0.00000006 0 8740  
 2 15099 82.5329 15.2239 0014600 94.7849 265.4981 13.83520317185977  
 GPS-0010  
 1 15271U 88 70.14190525 -.000000030 10000-2 0 4560  
 2 15271 63.4738 352.3642 0095009 311.8176 47.4022 2.00576752 24520  
 NOAA 9  
 1 15427U 88 73.59485341 0.00000008 15241-4 0 2418  
 2 15427 99.0905 47.0637 0015720 163.0543 197.1145 14.11559951167460  
 Meteor 2-12  
 1 15516U 88 69.17148242 0.00000117 10000-3 0 9787  
 2 15516 82.5385 314.5653 0017092 345.6671 14.4002 13.83957779156731  
 Cosmos 1686  
 1 16095U 88 74.96197343 0.00020356 65542-3 0 8551  
 2 16095 51.6105 24.6281 0003178 159.2544 200.7559 15.32175005139306  
 GPS-0011  
 1 16129U 88 62.33075446 0.00000014 0 2373  
 2 16129 63.5581 113.8052 0110031 150.4501 210.2639 2.00569984 17577  
 Meteor 3-01  
 1 16191U 88 70.97961707 0.00000043 10000-3 0 7399  
 2 16191 82.5448 203.2488 0019830 20.1537 340.0428 13.16924930114552  
 Meteor 2-13  
 1 16408U 88 69.86158831 0.00000006 0 3842  
 2 16408 82.5336 228.8972 0016717 158.7962 201.3901 13.84041703111321  
 Mir  
 1 16609U 88 74.77506485 0.00049409 27950-3 0 1095  
 2 16609 51.6260 194.2539 0012202 216.2760 143.7371 15.78486300118938  
 SPOT 1  
 1 16613U 88 75.80948920 0.00000304 16074-3 0 9521  
 2 16613 98.6985 150.8587 0001595 91.8077 268.3394 14.20039511 19641  
 Meteor 2-14  
 1 16735U 88 60.56272855 0.00000006 0 2193

2 16735 82.5335 262.8753 0013209 263.3031 96.6623 13.83773732 88952  
 Cosmos 1766  
 1 16881U 88 71.06954855 0.00000089 11939-4 0 2570  
 2 16881 82.5273 105.2685 0025155 162.1587 198.0510 14.73630750 87069  
 EGP  
 1 16908U 88 64.67871985 -.00000022 14902-3 0 805  
 2 16908 50.0099 301.4241 0011214 229.9603 130.0243 12.44370151 70956  
 FO-12  
 1 16909U 88 64.66740764 -.00000025 10000-3 0 847  
 2 16909 50.0146 301.5752 0011166 228.8545 131.1318 12.44394291 70942  
 NOAA 10  
 1 16969U 88 72.66264868 0.00000204 10000-3 0 1285  
 2 16969 98.6921 104.8504 0013619 142.8186 217.3932 14.22553492 77053  
 Meteor 2-15  
 1 17290U 88 74.23835651 0.00000006 0 1478  
 2 17290 82.4708 162.6530 0014183 105.6795 254.5989 13.83581185 60015  
 GOES 7  
 1 17561U 88 68.74443349 -.00000220 0 1094  
 2 17561 0.0437 271.7894 0001599 292.3214 155.8827 1.00269926 923  
 Kvant  
 1 17845U 88 74.96496605 0.00063198 35574-3 0 3714  
 2 17845 51.6242 193.2758 0011196 217.6672 142.1971 15.78514016 55239  
 Cosmos 1834  
 1 17847U 88 75.88866974 0.00004149 70596-4 0 5298  
 2 17847 65.0324 210.6939 0010251 278.5525 81.3828 15.52021754 53192  
 Kvant PM  
 1 17851U 88 74.86489969 0.00005667 46757-4 0 4494  
 2 17851 51.6192 230.4409 0010911 64.7487 295.4771 15.70838356 54738  
 RS-10/11  
 1 18129U 88 74.85484059 0.00000087 88974-4 0 3045  
 2 18129 82.9258 217.3909 0010494 243.3598 116.6496 13.71890330 36412  
 Cosmos 1870  
 1 18225U 88 75.86040577 0.00128076 98019-5 14910-3 0 3687  
 2 18225 71.9177 209.1414 0017536 260.8277 99.2699 16.08354712 37716  
 Meteor 2-16  
 1 18312U 88 74.41288098 0.00000033 24980-4 0 894  
 2 18312 82.5535 223.7559 0013549 48.9750 311.2612 13.83337927 28948  
 Soyuz TM-4  
 1 18699U 88 74.96496922 0.00052739 29787-3 0 922  
 2 18699 51.6237 193.2747 0011524 218.4496 141.4291 15.78503883 13339  
 1988 002A  
 1 18788U 88 37.33475864 0.00000051 25388-3 0 128  
 2 18788 82.6088 183.9867 0001272 124.6392 235.4807 12.62469792 2792  
 1988 002C  
 1 18790U 88 38.81134293 0.00000545 29470-2 0 182  
 2 18790 82.5969 182.9859 0007437 320.9783 39.0746 12.64035928 2989  
 1988 002D  
 1 18791U 88 34.36915961 0.00000023 10000-3 0 77

2	18791	82.6094	185.8236	0010307	342.3785	17.6831	12.64666438	2423
Meteor 2-17								
1	18820U		88 60.80947437	0.00000043		33057-4	0	194
2	18820	82.5448	296.6811	0016210	153.4590	206.7401	13.84018266	4207
1988 005B								
1	18821U		88 61.23126760	0.00001597		14128-2	0	316
2	18821	82.5424	296.3195	0012604	154.6094	205.5683	13.84569037	4261
DMSP B5D2-4								
1	18822U		88 61.48403750	-.00000019		99999-7	0	291
2	18822	98.7626	302.3137	0006729	159.1618	201.0028	14.20263588	3875
1988 008B								
1	18848U		88 70.21825794	0.00263462	26117-4	49887-3	0	624
2	18848	30.7450	65.4933	0012111	303.6625	56.2919	15.99383985	4782
1988 008C								
1	18849U		88 65.37121152	0.16595155	-37156-4	56650-3	0	405
2	18849	28.5715	96.9186	0011485	193.7930	175.1454	16.43969297	4108
1988 009C								
1	18857U		88 48.37700591	-.00005478	37975-4		0	34
2	18857	64.8161	185.9604	0011985	262.8309	105.3859	16.49567390	61
1988 010B								
1	18861U		88 51.18223045	0.06032508	-61570-5	56546-3	0	125
2	18861	82.5913	320.2778	0017626	68.7220	292.1739	16.38163114	287
1988 012A								
1	18877U		88 63.10248287	-.00000212		10000-3	0	123
2	18877	0.1503	252.6868	0080699	254.2011	213.5931	0.99205653	133
1988 012C								
1	18879U		88 64.46870452	0.00000318		10000-3	0	70
2	18879	28.2769	329.6778	7371671	186.2892	151.7733	2.17119968	291
1988 013A								
1	18881U		88 75.84985399	-.00001092			0	272
2	18881	62.9396	245.4865	7360266	316.3147	4.7041	2.00564939	387
1988 013B								
1	18882U		88 75.14727227	0.00584594	10837-4	92760-3	0	364
2	18882	62.7834	182.2366	0206708	118.4785	243.7341	15.74521899	2876
1988 013C								
1	18883U		88 72.64268676	-.00000109		-11923-2	0	134
2	18883	62.9693	245.9496	7332514	316.2297	4.8159	2.04017678	348
1988 013D								
1	18884U		88 74.05257749	0.00994322	37803-4	70896-3	0	386
2	18884	62.8339	186.2229	0214719	119.0578	243.1745	15.82368302	2610
1988 014A								
1	18922U		88 75.19915224	-.00000070			0	181
2	18922	0.5171	329.4004	0097360	9.9844	20.2342	0.98823045	113
1988 014B								
1	18923U		88 74.73599437	0.00084902	31559-4	41733-2	0	77
2	18923	31.1511	338.4362	7298604	183.4408	165.7433	2.29465589	144
1988 015A								
1	18931U		88 75.86680485	0.00037064		61468-4	0	196

2	18931	72.8479	316.7855	0090446	78.0662	283.0674	15.95310617	871
1988 015B								
1	18932U		88	76.35452846	0.16125821	12578-4	24748-3 0	193
2	18932	72.8378	315.1434	0020745	76.1141	284.8194	16.46689844	966
1088 016A								
1	18937U		88	74.69232773	-.000000006		0	91
2	18937	74.0064	176.7251	0035086	270.3354	89.3678	12.44399559	457
1988 016B								
1	18938U		88	73.72294319	-.000000006		0	55
2	18938	74.0115	178.0190	0026115	287.7661	72.0645	12.46621383	333
1988 016C								
1	18939U		88	73.55848932	-.000000006		0	64
2	18939	74.0082	178.2228	0012168	277.6637	82.3082	12.48607588	449
1988 016D								
1	18940U		88	71.55480401	-.000000006		0	56
2	18940	74.0046	180.8466	0008027	347.9299	12.1649	12.50672328	63
1988 016E								
1	18941U		88	73.71019698	-.000000006		0	53
2	18941	74.0066	177.9975	0010295	57.6801	302.5276	12.52652347	335
1988 016F								
1	18942U		88	73.06830959	-.000000006		0	53
2	18942	74.0062	178.8060	0019690	74.0396	286.2842	12.54553091	264
1988 016G								
1	18943U		88	73.30436982	-.000000006		0	71
2	18943	74.0065	178.5000	0028933	85.4533	275.4561	12.56376433	294
1988 016H								
1	18944U		88	72.74435073	-.000000006		0	46
2	18944	74.0058	179.2428	0039696	77.2691	283.2806	12.58310211	216
1988 016J								
1	18945U		88	73.69046869	-.000000006		0	87
2	18945	74.0111	178.1917	0141756	269.1947	89.3305	12.23903763	339
1988 017A								
1	18946U		88	76.19082395	0.00000736		60062-2 0	64
2	18946	62.9833	300.8661	7380637	280.2001	11.1547	2.05959949	115
1988 017B								
1	18947U		88	75.06263025	0.00377444	56041-4	84155-3 0	122
2	18947	63.0104	287.2658	0132990	60.3043	301.1257	15.83699942	604
1988 017C								
1	18948U		88	74.38707405	0.00433857	91672-5	79601-3 0	99
2	18948	62.9985	289.9629	0201109	62.1685	299.9682	15.73706424	494
1988 017D								
1	18949U		88	74.23410421	-.00000231		10000-3 0	42
2	18949	62.9876	301.0730	7378900	280.1592	11.1897	2.07001960	64
1988 018A								
1	18951U		88	75.77978060	-.00000198		10000-3 0	12
2	18951	0.0262	233.1593	0025708	248.2241	238.8354	1.00741521	01
1988 018B								
1	18952U		88	73.59386340	0.00000043		10000-3 0	13



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2 18952  0.0271 330.6383 0081237 139.7458 250.4626  1.01474051    21
1988 018C
1 18953U          88 74.43672877 0.00006994          24916-2 0    12
2 18953  7.0543 333.7378 7306315 180.5178 178.1627  2.24427116    74
1988 019A
1 18957U          88 76.14736662 0.00054908          73110-4 0    75
2 18957 64.9904  56.8991 0008798 273.8376  85.8033 16.06139183   252
1988 020A
1 18958U          88 75.97783486 0.00000011          0    59
2 18958 82.5454 122.7927 0018415 274.1437  85.7720 14.74042070   39
1988 020B
1 18959U          88 76.38493254 0.00575878          79194-1 0    46
2 18959 82.5429 122.4183 0018797 280.1097  79.7501 14.74612320   81

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TS Kelso                      ARPA: tskelso@emx.cc.utexas.edu
The Center for Space Research
The University of Texas at Austin  UUCP: {ihnp4,allegra}!ut-emx!tskelso

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Date: 18 Mar 88 17:16:17 GMT
From: ihnp4!ihuxz!parnass@ucbvax.Berkeley.EDU (Bob Parnass, AJ9S)
Subject: Scan the Swaggarts

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x

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Swaggart Jimmy Evangelical
                [USA-wide]_____ 464.5500_it_KA2372    (govt recds)
                "                "    467.8500_2w_KA2372    (govt recds)
                "                "    467.9000_2w_KA2372    (govt recds)

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Bob Parnass AJ9S - AT&T Bell Laboratories - ihnp4!ihuxz!parnass - (312)979-5414

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Date: 16 Mar 88 23:23:40 GMT
From: hyper!guest@umn-cs.arpa (guest)
Subject: Signal Splitters

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I opened one of those 75-ohm coax TV signal splitters and I saw the darnedest thing. The input split into two wires, one wire went into one end of a ferrite bead, came out and when to the output #1. The other input wire went into the opposite end of the ferrite bead and came out to output #2.

Well I know that an equal current is going to be flowing both directions through the ferrite bead. Shouldn't the inductances cancel? If

there is no inductance what is the bead doing? If it isn't doing anything how can it prevent reflections due to the 75-ohm to 37.5 ohm split effect?

- John M. Logajan {...!rutgers!} umn-cs!hyper!ns!logajan  
- Network System Corp.; 7600 Boone Ave; Brooklyn Park, MN 55428

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Date: 17 Mar 88 00:49:58 GMT  
From: ihnp4!ihuxz!parnass@ucbvax.Berkeley.EDU (Bob Parnass, AJ9S)  
Subject: Soviets continue microwave zapping of US embassy

x

According to an Associated Press story in the March 4 Beacon News, the Soviet Union continues to bombard the U. S. embassy in Moscow with microwave signals.

The 9-11 GHz and 5-6 GHz signals are typically 0.01 microwatt per square centimeter inside the embassy building, and ten times as strong outside.

The State Department protested the tactic over 4 years ago. Current levels are lower than those in 1980, when the microwave signals were measured at over 1.0 microwatts per square meter.

In the past, there was speculation that the Soviet radio waves were either an attempt to induce psychological and behavior changes among U. S. personnel, or had something to do with bugging. [The more likely purpose is to use the beams to excite eavesdropping devices planted within the embassy - BP]

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Bob Parnass, Bell Telephone Laboratories - ihnp4!ihuxz!parnass - (312)979-5414

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Date: Sat, 19 Mar 88 15:35:37 EST  
From: Henry Minsky <HQM@AI.AI.MIT.EDU>  
Subject: Tiny little TNC?

I saw the following in an AMSAT news bulletin:

"AMSAT will demonstrate packet radio at the meeting to show the basic technique and typical equipment. The hardware demonstration is being supported by three companies. Radio Shack is supplying the computers, Yaesu is providing the HTs

and TASC02 of Japan is supplying their ultra-miniature TNCs which are the size of a pack of cigarettes. JAMSAT officials were especially helpful in obtaining the TASC0 TNCs and expediting them to the U.S. Ralph Wallio, WORPK, AMSAT's VP of Operations, is integrating the demo equipment."

OK, where do I get one of these Tasco TNC's? Does anyone know anything about them?

Henry, N1EZP

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Date: 16 Mar 88 19:41:00 GMT  
From: hao!noao!mcdsun!asuvax!stjhmc!ddode11@AMES.ARC.NASA.GOV (David Dode11)  
Subject: Tube Substitutes

Does anyone have a phone number of any business that sells transistor substitutes for vacuum tubes?

David WB7TPY

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St. Joseph's Hospital and Medical Center - Phoenix Arizona  
uucp: {decvax, hao, ihnp4} !noao!asuvax!stjhmc!ddode11  
Bitnet: ARDSD @ ASUACAD FidoNet=> 1:114/15 or 1:1/0  
TWX: 910-380-5182 (Dode11 Scottsdale AZ) MCI Mail: ddode11

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End of INFO-HAMS Digest  
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